

“ENCROACHMENT MANAGEMENT AS A MEASURES FOR PIPELINE SAFETY”



Know what's below.
Call before you dig.

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HO1-pwp point

PRESENTATION OUTLINE:

- Why we are here
- Why we report
- Stakeholders: partner and prevent
- Know what is below
- Impact information
- Easements basics [property rights/easements/right acquired]
- Encroachment basics and responses
- Examples
- Take aways



WHY WE ARE HERE



***“ABSOLUTE CERTAINTY IS
THE PRIVILEGE OF FOOLS
AND FANATICS.”***

- × Clear communications
- × Partnership with gas co.
- × Nothing routine



LEGISLATION HISTORY

- The **Natural Gas Act of 1938** rates; **The Natural Gas Pipeline Safety Act of 1968** interstate transfers; **Hazardous Liquid Pipeline Safety Act of 1979** regulates hazardous liquids; **Pipeline Safety Improvement Act of 1994** amend the Natural Gas Pipeline Safety Act of 1968 and the Hazardous Liquid Pipeline Safety Act of 1979.
- **Pipeline Safety Improvement Act of 2002:** Mandates requirements to ensures the safety and integrity of its pipelines.
 - requirements to implement an “**integrity management program,**”
 - Pipeline operators now apply preemptive measures to monitor, inspect and protect pipelines
- **Pipeline Transportation Safety Improvement Act of 2011:** provide for enhanced safety and environmental protection [response to San Bruno]

WHY WE REPORT



In San Bruno, CA on September 2010, a 30 inch diameter steel pipeline exploded.

The death toll was eight people.

The explosion registered as a magnitude 1.1 earthquake.

The initial blast "had a wall of fire more than 1,000 feet high.

The explosion excavated a crater 167 feet long, 26 feet wide and 40 feet deep.

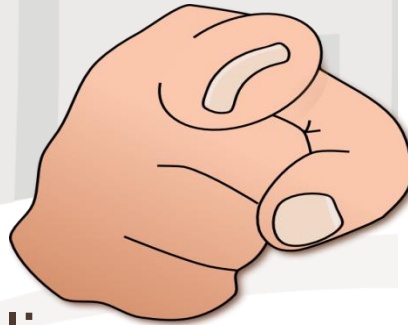
WHY WE REPORT

- To protect easements, facilities and infrastructure
- To provide guidelines for employees, agents and contractors as they work within and manage use of easements.
- To maintain a safe, reliable and efficient energy delivery relative to the public interest in the development of property.



STAKEHOLDERS

- title companies
- developers
- public officials
- cities/towns
- employees
- contract employees
- General public



COMMUNITY ISSUES:



1. Know where pipelines in your community are located, what they transport and how to contact the operator if there is an emergency:

- [National Pipeline Mapping System](#) to view maps of transmission.
- Contact local gathering and distribution operators directly regarding the location of their lines and emergency response numbers.
- permanent pipeline markers for general location and emergency contact numbers for operators.

2. Report pipeline damage or dangerous activity near the pipeline to the pipeline operator:

- Call the pipeline operator if you see unauthorized excavation or other activities that could endanger a pipeline or aboveground pipeline facility.

3. Follow best practices for safe excavation near pipelines and enforce state One-Call laws :

- Excavation activity is the most common cause of pipeline damage. If you will be excavating near a pipeline, call 811 or your local One-Call center,. “Know What’s Below”.

4, Consider requiring an 811 locate ticket verification before issuing a building permit

KNOW WHAT IS BELOW



Know what's below.
Call before you dig.



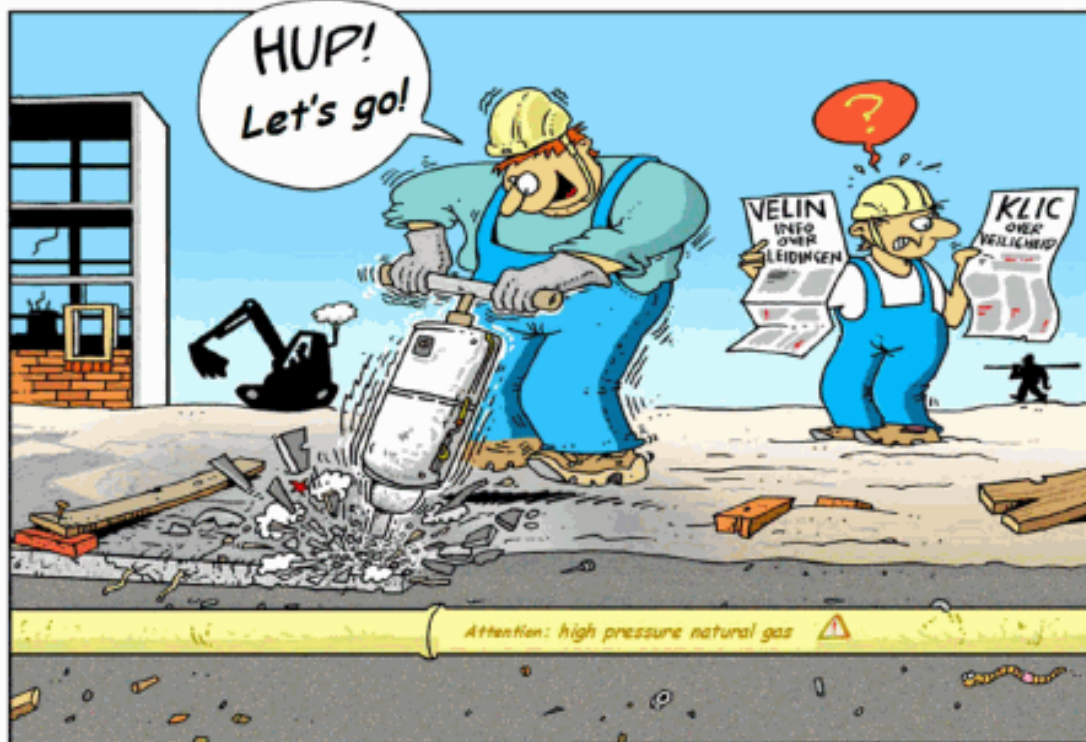
KNOW WHAT IS BELOW



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Know what's below.
Call before you dig.

2011 MINNEAPOLIS EXPLOSION

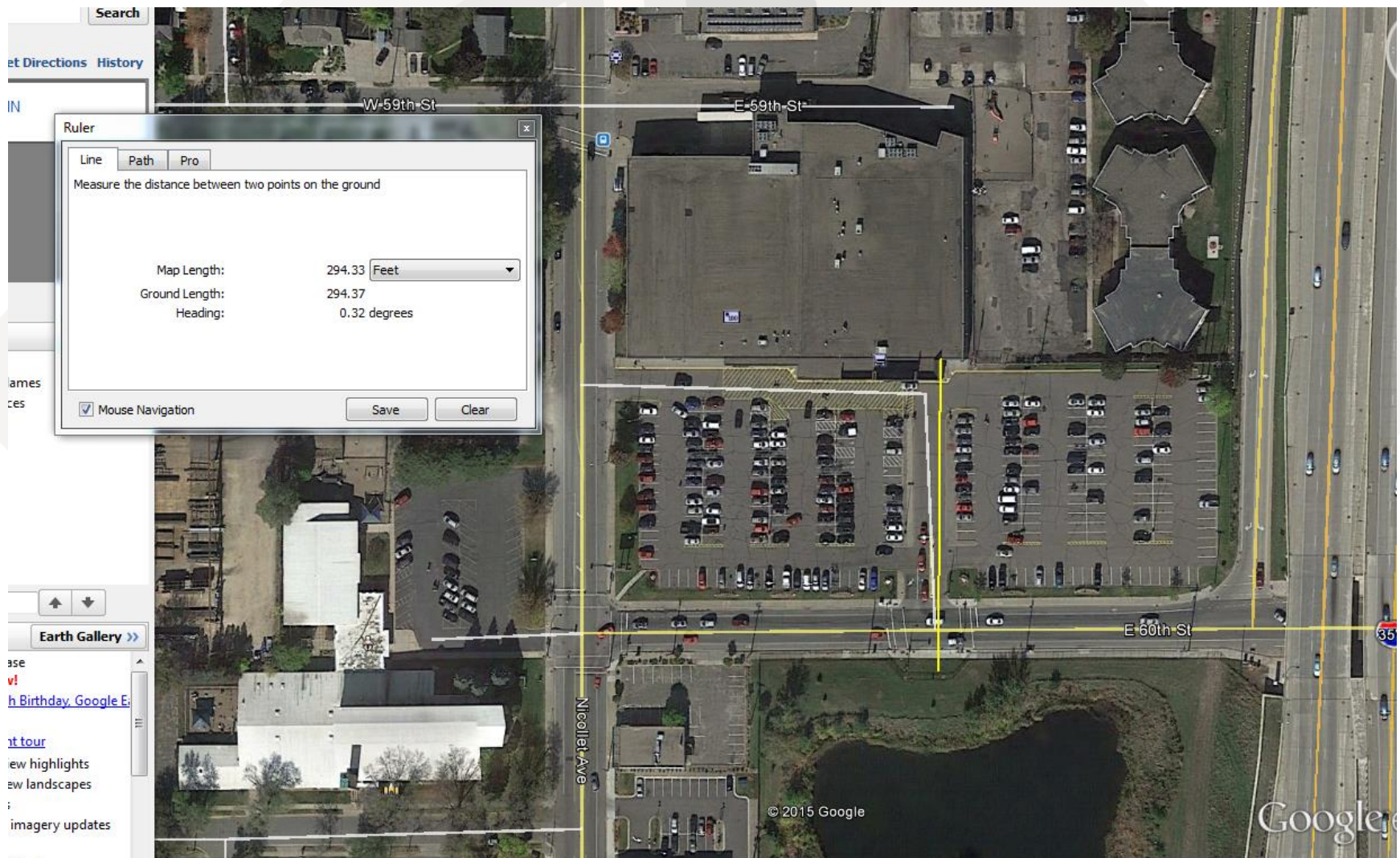
A computer monitor with a black frame and a silver stand. The screen is blue and displays white text. The text is centered and reads: "March 17, 2011", "7:37 am", and "South Minneapolis, MN".

March 17, 2011
7:37 am
South Minneapolis, MN

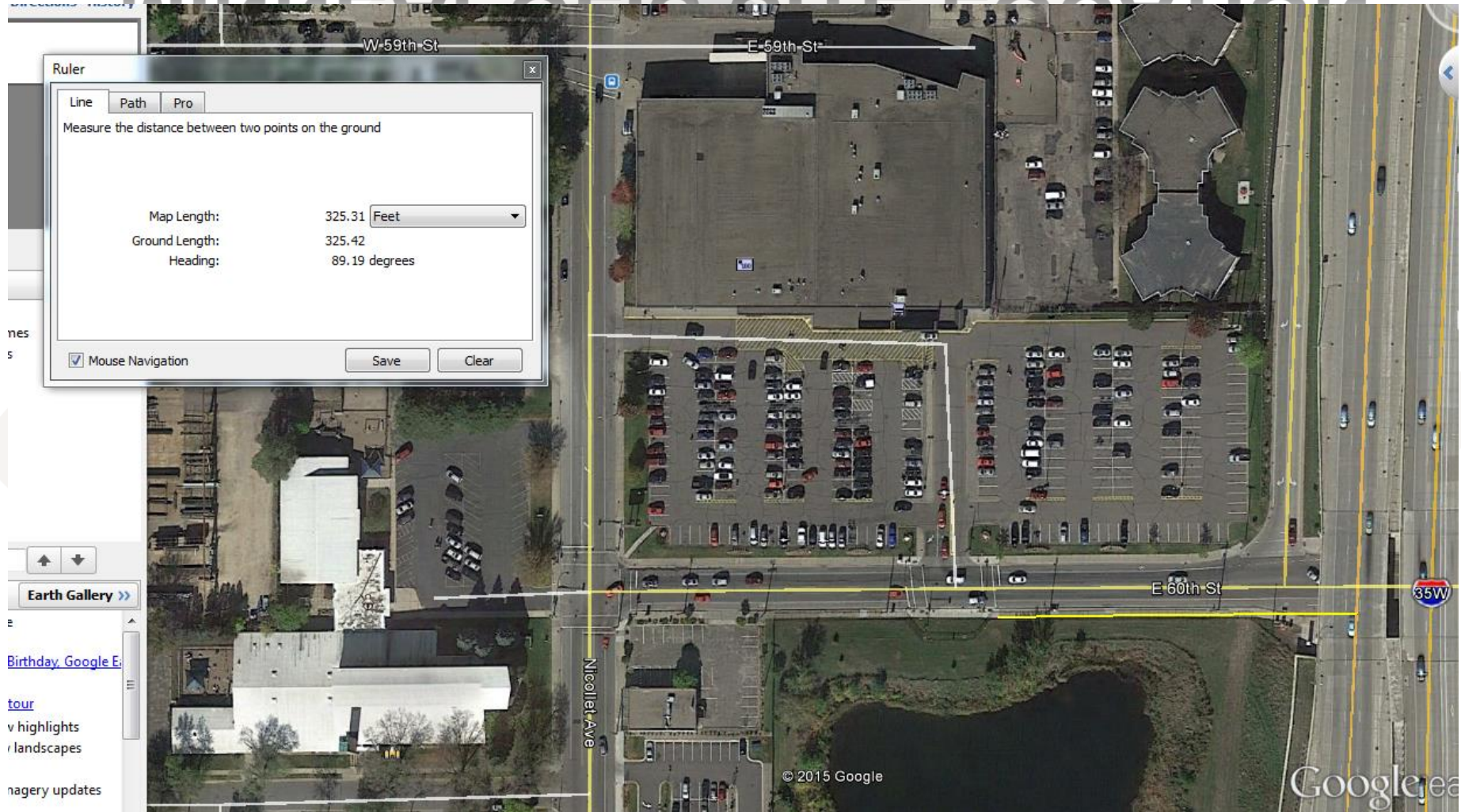
2011 MINNEAPOLIS EXPLOSION



MINNEAPOLIS SITE LOCATION



MINNEAPOLIS SITE LOCATION



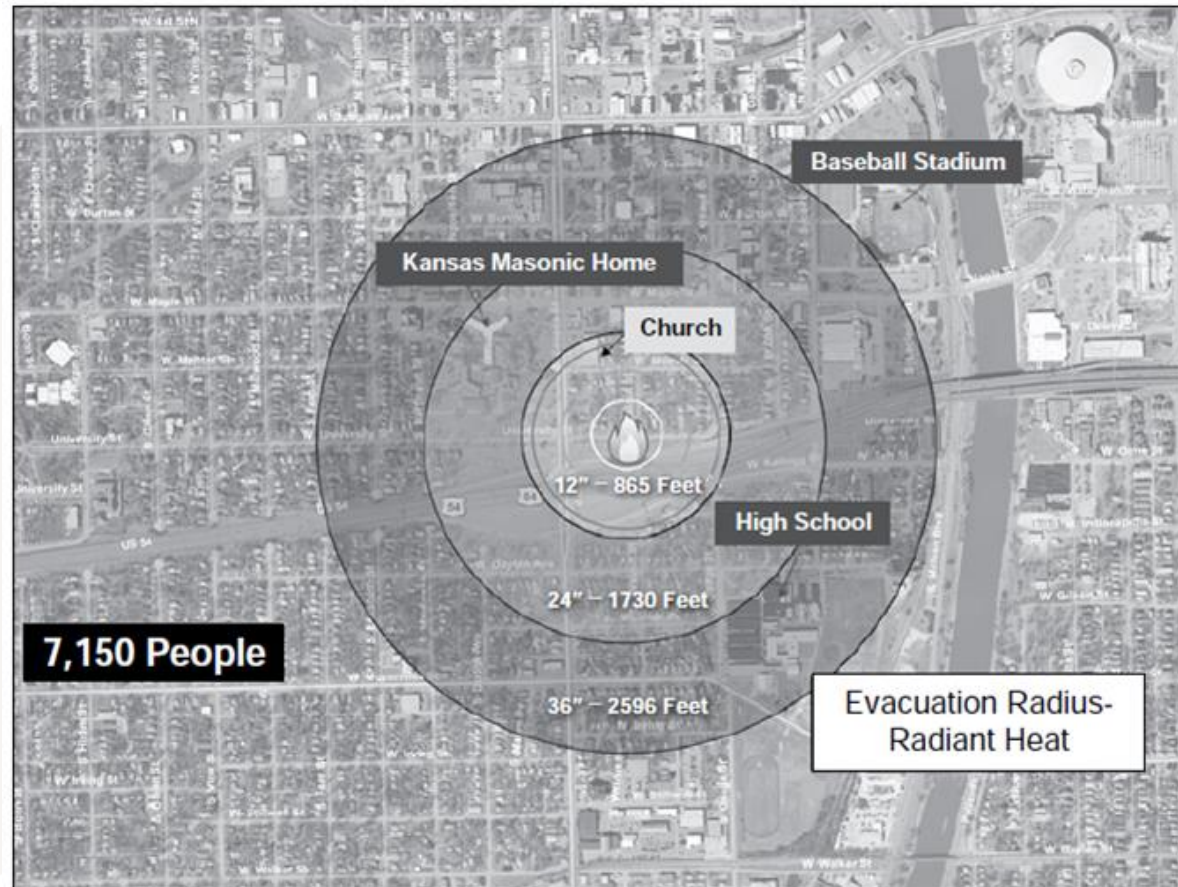
MINNEAPOLIS PHOTOS



Photo 2

The failure of the natural gas transmission pipeline near the Cub Foods entrance on East 60th Street east of Nicollet Avenue in Minneapolis was due to its inability to sustain external loads. The external loads in this case being the soil, roadway, traffic, and forces related to subsidence of the soil.

POTENTIAL IMPACT RADIUS



WHAT ARE PROPERTY RIGHTS?

In English law, a **fee simple** or **fee simple absolute** is an estate in land, a form of freehold ownership. It is a way that real estate may be owned in common law countries, and is the highest possible ownership interest that can be held in real property.

Typically, visualize property rights as a cup full of pencils. When you purchase property, you purchase “all” the pencils that are available.



WHAT IS AN EASEMENT?

Easement – This is the first asset acquired, most overlooked. Foundation for all future activities including facility installation, maintenance and operation. A legal instrument giving a temporary or permanent right to use a right-of-way.

The easement will be either exclusive vs. non-exclusive [first come - first served].

When an easement is purchased, the stakeholder purchases a few of those pencils. Some of the “pencils” typically acquired are the right to install, operate, repair, replace and maintain.



TYPES OF EASEMENTS

Generally there are three types of easements:

- Public rights of way [Road/Street/Alley]
- Public Utility Easements (PUE), shared corridors reserved for use by utilities
- Private easements acquired
 - Blanket/sufficient width or Fixed width
 - Depth/Size
 - Purpose
 - Transmission
 - High Pressure Distribution
 - Medium or low Pressure Distribution



RIGHTS ACQUIRED

- Utility shall have the right, power, and privilege to construct, inspect, maintain, operate, enlarge, rebuild and repair any number of lines
- Utility shall have the right to trim or remove any and all trees
- Utility shall have the right to remove brush or other obstructions
- Property owner will retain the right to cultivate the land
- Property owner shall not erect or maintain any improvements or structures, except fences,
- Property owner retains the right to use and enjoy said premises, except for the purposes herein granted
- Property owner reserves the right to use its real estate for all purposes not inconsistent with this grant



WHAT IS AN ENCROACHMENT

Encroachment –Encroachment refers to the unauthorized use of a right-of-way in violation of the easement terms.

Encroachment is defined in the *VECTREN* encroachment policy as *any third-party activity that occurs within an existing easement that impacts the Company's ability to safely operate and maintain the facility or is otherwise detrimental to public safety.*



GROWTH ALONG PIPELINE



Figure 1 - 1990



Figure 2 - 2002

TYPES OF ENCROACHMENTS



In Progress – The encroachment is any activity that is currently happening, any time from start to completion of project that impacts easement

Proposed – The encroachment is a planned development such as a subdivision, industrial park, building expansion or property improvement

Existing (Legacy) – The improvement discovered has sufficient age it would not be considered in progress and construction is complete.

ENCROACHMENT MANAGEMENT

Goals of encroachment management

- + **Safe and efficient land management:** Coordination assures facilities are always considered and potential impact addressed
- + **Maintaining and improving public safety :** As awareness increases potential damage is decreased
- + **Establish standard protocols:** Structured actions/responses create a predictable environment with consistent results
- + **Create guidelines:** Management of staff, contractors and projects allow preplanning with a high degree of confidence that safety needs and regulations have been met
- + **Balance the public interest in delivery infrastructure against the public interest in the development of property:** As an entity that provides a commodity, we certainly want to see development and advancement in communities

ENCROACHMENT APPROACH

Define approach

- + **Report:** A standardized report will form the basis of any necessary response
- + **Categorize** which type of encroachment has been discovered
- + **Research** recover easement, review rights acquired
- + **Coordination** internal and external review with subject matter experts
- + **Response**

RESPONSES

Types of response:

- **Letter of No objection [LONO]** is a simple response to encroachment request, designed to be quick and efficient, used when there is minimal impact to facilities or easement
 - **Field Construction Acknowledgement [FCA]** standard response to standard encroachment request, designed to be efficient, used when there is a routine activity around facilities or easement
 - **Encroachment Agreement [EA]** legal contract designed to address complicated projects with multiple encroachments or to capture activities in high profile easements
-

RECAP

Pipelines are the safest way to transport energy products like natural gas, crude oil and other fuels. When left alone they rarely fail.

According to government and industry statistics, the most common cause of pipeline incidents is improper or unauthorized digging near a pipeline.

BELLINGHAM , WASHINGTON



June 1999, a 16-inch-diameter steel pipeline ruptured and released gasoline into a creek.

The gasoline ignited and burned 1.5 miles along the creek. Two boys and a young man died as a result of the accident.

In August 1994 the pipeline was struck by a backhoe. Inspection revealed, 27 gouge marks were evident on a 10-foot-long pipe segment.

**5 years between
damage and failure.**

CLEBURNE, TX



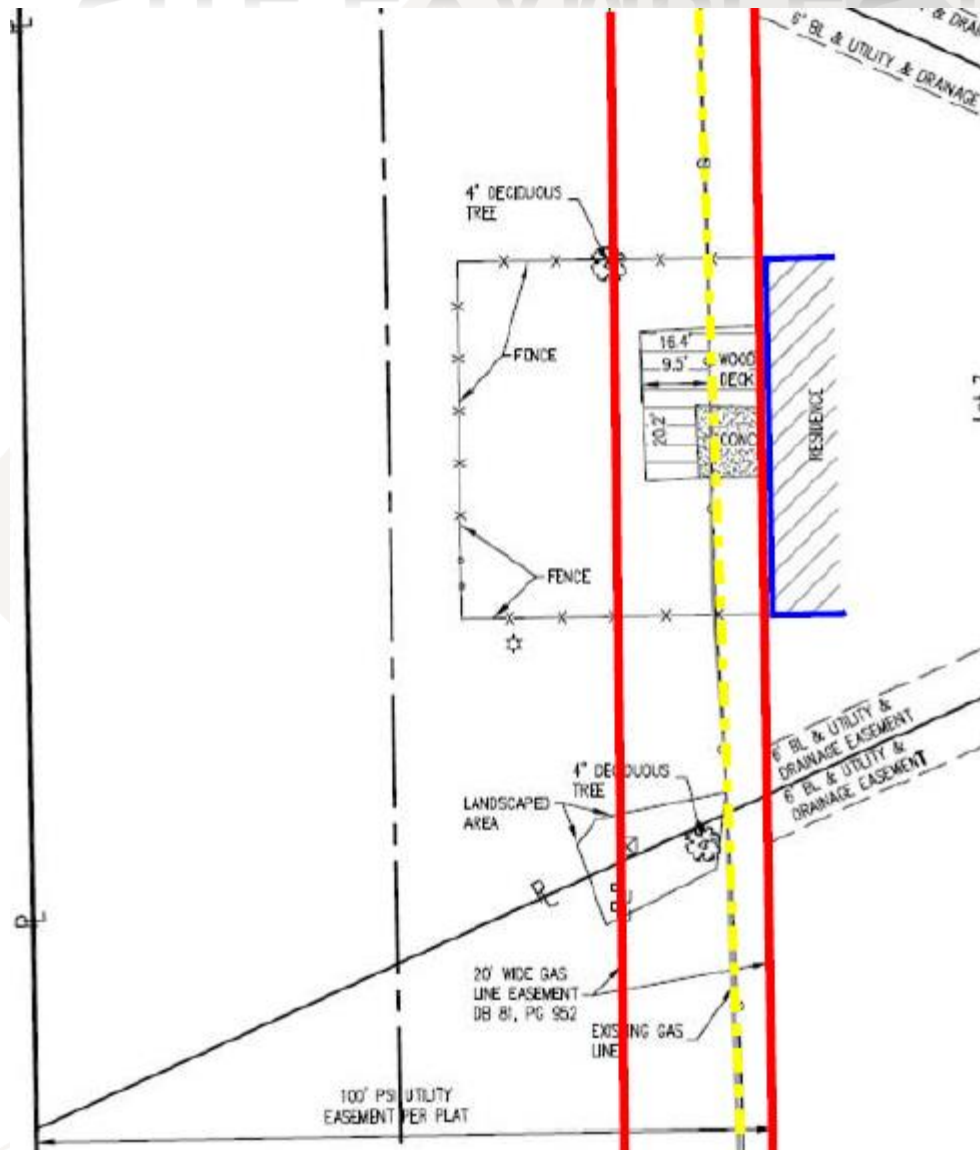
June 2010, a truck-mounted power auger struck and punctured a natural gas transmission pipeline.

A contractor was using the auger truck to dig holes for the installation of new electric service utility poles.

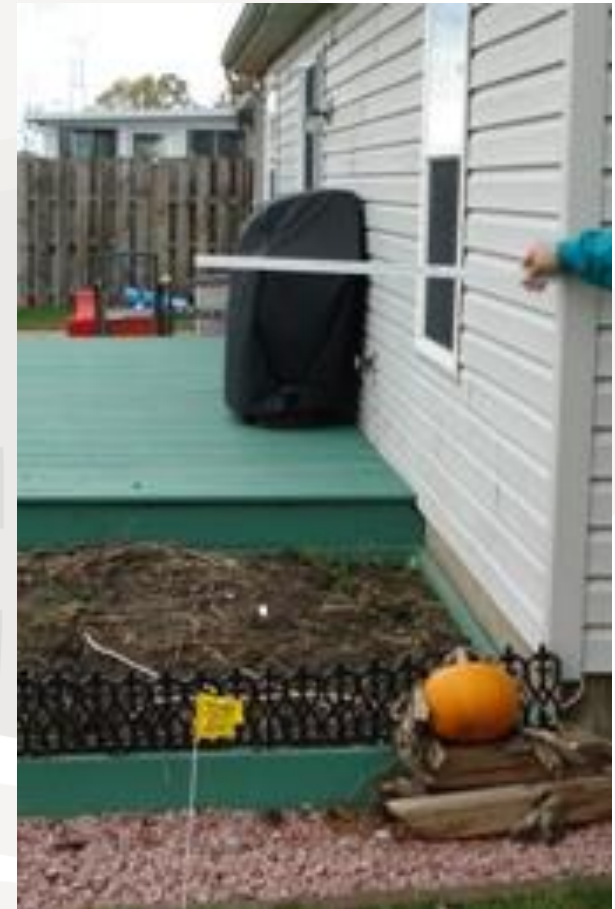
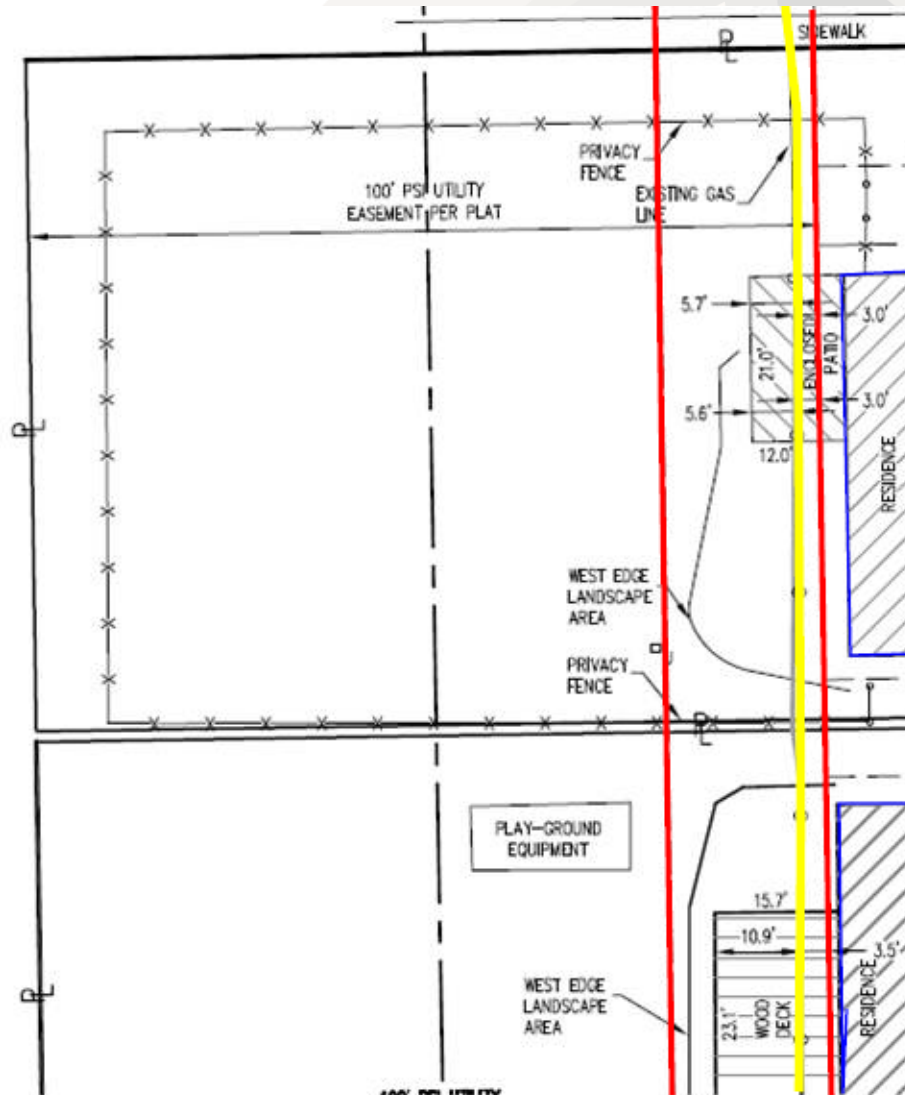


The natural gas ignited and killed the auger operator and burned six workers.

SITE EXAMPLES [12" @ 400 PSI]



SITE EXAMPLES [12" @ 400 PSI]



RESULTS

Results to date: Approximately 1500 encroachments reported with zero damages where encroachments were coordinated

Take Aways

✗ Take aways

- + Understanding easements [most overlooked asset acquired] corridor of acquired rights allowing defined use and action
- + Encroachment types and responses: knowledge of each encroachment type defines the necessary response and actions
- + Program as a preventative and mitigative tool toward damage prevention: by raising awareness many incidents can be prevented; by having a program, encroachments found can be consistently addressed, alleviated, reduced or made less severe



PARTNERSHIPS AVAILABLE

QUESTIONS?



Photo 2

